

**WHAT IS CLAIMED IS:**

1. An organic light emitting diode (OLED) display, comprising:
  - a) an array of OLEDs, each OLED having two terminals;
  - b) a voltage sensing circuit for each OLED including a transistor in each circuit connected to one of the terminals of a corresponding OLED for sensing the voltage across the OLED to produce feedback signals representing the voltage across the OLEDs; and
  - c) a controller responsive to the feedback signals for calculating a correction signal for each OLED and applying the correction signal to data used to drive each OLED to compensate for the changes in the output of each OLED.
2. The OLED display claimed in Claim 1, wherein the output of the OLEDs change with temperature, and further comprising a temperature sensor for generating a temperature signal and wherein the controller is also responsive to the temperature signal to calculate the correction signal.
3. The OLED display claimed in Claim 1, wherein the controller further includes a lookup table having a correction signal for each of the OLEDs.
4. The OLED display claimed in Claim 1, wherein the controller sequentially activates individual OLED to measure the voltage associated with each OLED element.
5. The OLED display claimed in Claim 1, wherein the controller activates one or more OLED elements at a plurality of different brightness levels to calculate the correction signal.